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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/695,212	10/25/2000	Satoshi Ihida	00376-1	2323

21254 7590 05/22/2003

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EXAMINER
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AKKAPEDDI, PRASAD R

ART UNIT	PAPER NUMBER
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2871

DATE MAILED: 05/22/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

P-5

# Office Action Summary

Application No.

09/695,212

Applicant(s)

IHIDA ET AL.

Examiner

Prasad R Akkapeddi

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 11 April 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-23 is/are pending in the application.
- 4a) Of the above claim(s) 12-23 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-23 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 25 October 2000 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

## Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

## Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 2,5,6.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other:

**DETAILED ACTION**

***Election/Restrictions***

1. Claims 12-23 are withdrawn from further consideration pursuant to 37 CFR 1.142(b) as being drawn to a nonelected Group, there being no allowable generic or linking claim. Election was made **without** traverse in Paper No. 7.

***Claim Rejections - 35 USC § 112***

2. The following is a quotation of the second paragraph of 35 U.S.C. 112:  
  
The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.
3. Claim 9 recites the limitation "organic dielectric film" in claim 6. There is insufficient antecedent basis for this limitation in the claim.

***Claim Rejections - 35 USC § 102***

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

5. Claims 1-2 are rejected under 35 U.S.C. 102(e) as being anticipated by Park et al. (park) (U.S. Patent No. 6,380,559).

As to claim 1: Park discloses an active matrix LCD panel for use in an active matrix LCD device comprising a transparent insulating substrate (10), a plurality of

pixels (111 to 141) arranged on the transparent insulating substrate and each including a pixel electrode (82) and an associated TFT (3), and a passivation layer (70) covering the plurality of pixels (111 to 141), the TFT having a gate electrode (26) including a transparent conductive film (ITO) and a metallic film (Al, col. 7, lines 41-49) consecutively formed on the transparent insulating substrate, a gate insulating film (30) covering the gate electrode (26), an amorphous silicon (a-Si) layer (42) formed on the gate insulating film (30), and source (65) and drain electrodes (66), the passivation layer covering side surface and top surface of the a-Si layer (42) and having openings therein (72), the source (65) and drain (66) electrodes being in contact with the a-Si layer (42) through the respective openings of the passivation layer (70), the pixel electrode (82) including a transparent conductive film formed in a common layer with the transparent conductive film of the gate electrode (26), the source electrode (65) being in contact with the transparent conductive film (ITO) of pixel electrode through the opening (71) of the passivation layer (70) (Fig. 4).

As to claims 2: Park discloses a gate storage electrode (26) formed in a common layer with the source (65) and drain electrodes (66), the passivation layer (70) and an electrode (68) formed in common with the gate electrode constitute a gate storage capacitor (col.7, lines 57-67 and col. 8, lines 1-6).

***Claim Rejections - 35 USC § 103***

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the

invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. Claims 3-5 are rejected under 35 U.S.C. 103(a) as being unpatentable over Park.
  - a. As to claim 3-5: Park does not explicitly disclose in text that the a-Si layer has a shape substantially same as a shape of gate insulating film as viewed in perpendicular to a surface of the transparent insulating substrate, nor that the LCD is used a TN-mode device and the a-Si layer is heavily doped. However, Park in Fig. 4 discloses the shape of the a-Si layer that has substantially same shape of the gate insulating film and that the device is a Liquid crystal display device and that the a-Si layer is doped with n type impurities such as phosphorous (col. 7, lines 53-57).

Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to adapt the specific configuration as disclosed by Park to provide a TFT substrate for a liquid crystal display having good performance, with a suitable opening ratio and with reduced number of masks (col. 1, lines 42-53).

8. Claims 6-11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Park in view of Kim et al. (Kim ) (U.S. Patent No. 5,917,564).

As to claims 6-11: Park discloses an active matrix LCD panel for use in an active matrix LCD device comprising a transparent insulating substrate (10), a plurality of pixels (111 to 141) arranged on the transparent insulating substrate and each including a pixel electrode (82) and an associated TFT (3), and a passivation layer (70) covering the plurality of pixels (111 to 141), the TFT having

a gate electrode (26) including a transparent conductive film (ITO) and a metallic film (Al, col. 7, lines 41-49) consecutively formed on the transparent insulating substrate, a gate insulating film (30) covering the gate electrode (26), an amorphous silicon (a-Si) layer (42) formed on the gate insulating film (30), and source (65) and drain electrodes (66), the passivation layer covering side surface and top surface of the a-Si layer (42) and having openings therein (72), the source (65) and drain (66) electrodes being in contact with the a-Si layer (42) through the respective openings of the passivation layer (70), the pixel electrode (82) including a transparent conductive film formed in a common layer with the transparent conductive film of the gate electrode (26), the source electrode (65) being in contact with the transparent conductive film (ITO) of pixel electrode through the opening (71) of the passivation layer (70) (Fig. 4). Park also discloses that the a-Si layer is doped, the passivation layer may be formed of an organic dielectric film such as silicon nitride and acrylic-based materials (col. 8, lines 61-63), the drain electrode is made of Aluminum that can be oxidized (col. 7, line 49).

However, Park does not disclose that the active matrix substrate as having a counter electrode. Kim on the other hand, in disclosing an active matrix display device discloses twisted nematic LCD displays, a counter electrode (15) and the counter electrode (15) including a transparent conductive film (17) formed in a common layer with the transparent conductive film of the gate electrode (11), the source electrode (S) being in contact with the transparent

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conductive film of the pixel electrode through the opening of the passivation layer (14) (Figs. 7-9).

Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to adapt the configuration disclosed by Kim to the device of Park to provide for IPS type liquid crystal displays having reduced susceptibility to image-sticking (col. 3, lines 26-35) and maximum viewing angles (col.1, lines 33-34).

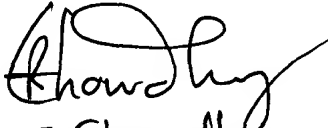
Any inquiry concerning this communication or earlier communications from the examiner should be directed to Prasad R Akkapeddi whose telephone number is 703-305-4767. The examiner can normally be reached on 7:00AM to 5:30PM M-Th.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Robert H Kim can be reached on 703-305-3492. The fax phone numbers for the organization where this application or proceeding is assigned are 703-872-9318 for regular communications and 703-872-9319 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0530.

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May 5, 2003

  
T-Chowdhury  
Primary Examiner